



**Maryland**  
Energy  
Administration

Larry Hogan, Governor  
Boyd K. Rutherford, Lt. Governor  
Mary Beth Tung, Director

**Notice of Grant Availability**  
**FY20 Resilient Maryland Pilot Program**

**Program Description:** The Maryland Energy Administration (MEA) announces the Fiscal Year 2020 (FY20) Resilient Maryland Pilot incentive program (Resilient Maryland). Resilient Maryland will provide competitive grants to stakeholders in Maryland's power infrastructure, facilities management, and distributed generation industries to gauge the interest and analyze the feasibility of the development of microgrids, advanced combined heat and power (CHP) systems, and resiliency hubs (defined below) in the state.

The desired outcomes of this program are to obtain detailed information on what scale (community, campus, building, and/or resiliency hub (defined below)) microgrids and CHP units provide the best value to the state and its communities and residents, what entities make good candidates for the technologies under consideration, detailed feasibility analyses of potential sites, what hurdles and challenges their successful deployment must overcome, and what quantifiable and qualitative benefits they will provide to the residents, local governments, nonprofit organizations, and businesses of Maryland. The results will allow MEA to fine-tune existing programs to best support advanced energy projects and inform future MEA programs.

**Program Budget:** Up to \$500,000 (total), across the four (4) Areas of Interest (AOIs) below:

- AOI 1 - Community/Campus Microgrid Planning
- AOI 2 - Resilient Facility Power System Planning & Design
- AOI 3 - Advanced CHP Planning & Design
- AOI 4 - Resiliency Hub Planning & Design

**Eligible Parties:** Businesses with Maryland operations, business development districts, critical infrastructure, facilities, local governments with essential services, non-profit organizations, regional planning organizations, and utilities. State of Maryland agencies, utilities and others.

**Eligibility Requirements:** **All Applicants under all AOIs** are required to meet the following eligibility requirements. **AOI-specific rules and requirements** are discussed under each AOI in the Eligible Projects section on the following pages.

1. Applicant must meet the definition of one of the Eligible Parties.

2. Applicant must be in Good Standing with the [Maryland State Department of Assessments and Taxation \(SDAT\)](#)<sup>1</sup>.
3. Applicant must agree to and understand that MEA will incorporate the findings of the project into one or more case studies, success stories, or other publicly accessible media, in accordance with the Freedom of Information Act and Maryland Public Information Act. Consistent with these laws, MEA will not disclose trade secrets, confidential commercial or confidential financial information.
4. MEA must be permitted to access the proposed microgrid/CHP/resiliency hub site(s) prior to Award selection.
5. Applicants must, at minimum, contribute donated work hours to the project. It is encouraged, though not required, that applicants make a financial contribution. Applicant contribution may have an impact on MEA's decision to fund the project.
6. Applicants must be able to enter into a grant agreement with MEA **no later than May 29, 2020** in order to be selected for a Grant.
7. If awarded, none of the grant funds may be used for grantee administrative costs associated with the project.
8. If awarded, grant funds cannot be used for energy audits.

**Definitions:** The following terms are referenced throughout this document and, for purposes of this program, are defined as follows:

**Campus:** A single parcel or multiple adjacent parcels of real property located in the State of Maryland upon which at least two (2) buildings currently are or will be fully constructed which will be served by a microgrid, CHP system, or distributed generation asset and/or energy storage system.

**Advanced CHP System:** A system comprised of a combustion engine, turbine, microturbine, non-combusting fuel cell, or innovative technology (as deemed by MEA on a case-by-case basis) which utilizes natural gas, renewable biogas, biomass, hydrogen, or steam for the simultaneous generation of electricity and recoverable thermal energy used at the facility or facilities which it serves. Systems also include heat recovery equipment, electrical switchgear, and all other electrical and thermal infrastructure required for successful CHP system implementation. The system must possess black start and islanding capability<sup>2</sup>.

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<sup>1</sup> [dat.maryland.gov/Pages/default.aspx](http://dat.maryland.gov/Pages/default.aspx)

<sup>2</sup> *Black start capability means that the CHP System is able to restart in the absence of grid power. Similarly, islanding capability means that the CHP System can operate independent of grid power.*

**Community:** A County, Baltimore City, incorporated or unincorporated community, or geographically connected subset of these jurisdictions (e.g. a collection of city blocks) in which at least two (2) buildings will be served by a Microgrid.

**Distributed Generation:** Includes solar photovoltaic (PV) systems, CHP systems, wind turbines, concentrated solar power, or any other electricity and/or thermal energy generating system deemed eligible by MEA.

**Energy Storage System:** Systems which store electrical, mechanical, chemical/electrochemical, and thermal energy for: (a) use as electrical energy at a later date; OR (b) a process that offsets electricity use at peak times.

**Facility:** A single building located on a parcel or multiple adjacent parcels of real property that is either owned or leased whole or in part by the Applicant which will be served by a Microgrid, advanced CHP system, or Distributed Generation asset and/or Energy Storage System.

**Low-to-Moderate Income (LMI) Marylanders:** Comprised of the following definitions:

*Low Income Marylanders:* Marylanders whose household income is: (a) at or below 175% of the federal poverty level.

*Moderate Income Marylanders:* Marylanders whose household income exceeds the low-income threshold and is below 85% of area median income as determined by the latest [Maryland Department of Housing and Community Development](#)<sup>3</sup> manual [Income Limits](#)<sup>4</sup>.

**Microgrid:** An interconnected system of (a) distributed generation asset(s), CHP system(s), and/or energy storage system(s) and associated distribution infrastructure which provides electricity and may provide thermal energy to a community, campus, or single facility. Must be able to operate independently of the utility grid.

**Project:** The feasibility, engineering and design, financial modeling, economic benefit, greenhouse gas reduction benefit, and public welfare benefit analyses for which Resilient Maryland funds are being applied.

**Resiliency Hub:** Facilities designed to provide emergency heating and cooling capability; refrigeration of temperature sensitive medications and milk from nursing mothers; plug power for durable medical equipment (to include dialysis equipment and continuous positive airway pressure machines); plug power for charging of cell phone and computer batteries; or

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<sup>3</sup> [dhcd.maryland.gov/pages/default.aspx](https://dhcd.maryland.gov/pages/default.aspx)

<sup>4</sup> [dhcd.maryland.gov/HousingDevelopment/Documents/prhp/2019\\_MD\\_Income\\_Limits.pdf](https://dhcd.maryland.gov/HousingDevelopment/Documents/prhp/2019_MD_Income_Limits.pdf)

emergency lighting. A Resiliency Hub may also be a designated location (by the city, county, or state) for the distribution of emergency services during extended grid outages. A Resiliency Hub is NOT a replacement for an emergency shelter as it is not required to be designed to survive extreme weather. In addition, it is NOT required to have food service capabilities, showers and locker rooms. However, an emergency shelters that does provide these services is still eligible to apply under this Program.

**Reporting and Reimbursement Requirements:** Upon selection for a Grant, a Grantee must comply with the following reporting requirements in order to receive reimbursements.

***Monthly Reporting:*** A Grantee must submit monthly progress reports throughout the life of the project, which must include information on, but not limited to: milestones achieved throughout the month, obstacles encountered, changes to the project timeline, and results from completed analyses.

***Reimbursement Requests:*** A Grantee shall submit requests for reimbursements under the Grant in arrears; that is, after the cost is incurred, on monthly progress reports. MEA will issue funds after proper review and approval.

**Submission Deadline:** Applications under all AOIs are due to MEA **no later than 11:59 P.M. EDT, Friday, May 1st, 2020.** Instructions on how to submit a completed Application Package are detailed in the Submission Instructions section.

**Eligible Projects:** Discussed in detail in each AOI Appendix to this Notice of Availability:

- Appendix A: AOI 1
- Appendix B: AOI 2
- Appendix C: AOI 3
- Appendix D: AOI 4

**Required Application Package Documents:** Each Applicant must submit the following documents to MEA to constitute an eligible Application Package. Failure to submit all required documents may result in cancellation of the Application Package.

1. **Complete and signed Application Form** (available on the [Resilient Maryland webpage](https://energy.maryland.gov/business/Pages/ResilientMaryland.aspx)<sup>5</sup>).
2. **Project Proposal** (specific requirements are discussed in each AOI section of the Application Form)
3. **Estimated budget for the Project (note that this is the definition of Project above, and NOT the hard and soft asset costs for equipment).**
4. ***For AOI 2 and AOI 3 Projects Only:* Twelve (12) Consecutive Months of Utility Bills** (must correspond exactly to the annual usage data provided on the Application Form and in the Project Proposal)

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<sup>5</sup> <https://energy.maryland.gov/business/Pages/ResilientMaryland.aspx>

5. **Electrical and Natural Gas/Other Fuel (if applicable) Utility Tariff/Rate Schedules**
6. **Certificate of Good Standing from Maryland SDAT<sup>6</sup>**
7. **Completed IRS Form W9 for Applicant**

**Evaluation Criteria:** Application packages will be evaluated on a competitive basis under the following criteria, at the discretion of MEA:

- **Value Proposition:** Applicant makes a strong case on the quantifiable and qualitative benefits and values afforded to (as applicable to each AOI): the Community, the Campus, the Facility, and/or the public.
- **Energy Savings:** Applicant makes an effort to maximize the energy savings afforded by the Microgrid, CHP System, or Resiliency Hub and energy efficiency upgrades to Project Campuses and Facilities.
- **Resiliency:** The Applicant demonstrates that the Microgrid, CHP System, or Resiliency Hub will have long-term energy resiliency capability. Systems which can operate higher percentages of building loads for longer time periods absent of grid power will be rated more favorably.
- **Clean Energy Resource Optimization:** Applicant maximizes its effort to optimize the integration and dispatch of the generation assets in its Project to minimize the emission of greenhouse gases.
- **Benefit to LMI Marylanders:** While not required, preference will be given to a project that demonstrates an effort to primarily benefit communities that include LMI Marylanders.
- **Applicant Contribution:** Applicant must, at minimum, contribute donated work hours to the Project. Matching and/or donated sources of funds increase favorability.

**Submission Instructions:** MEA highly encourages each Applicant to submit a complete Application Package via email to:

**>>> [RMP.MEA@Maryland.gov](mailto:RMP.MEA@Maryland.gov) <<<**

**To be considered, complete Application Packages are due to MEA no later than 11:59 P.M. EDT, Friday, May 1, 2020.**

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<sup>6</sup> Obtainable from SDAT at [dat.maryland.gov/businesses/Pages/Internet-Certificate-of-Status.aspx](http://dat.maryland.gov/businesses/Pages/Internet-Certificate-of-Status.aspx)

For ease of organization, Applicants should use the following naming convention for the filename of their Application Form: **APPLICANT\_NAME\_FY20\_Resilient Maryland\_APPLICATION** (E.g. BRANDON\_UNIVERSITY\_FY20\_Resilient Maryland\_APPLICATION). All remaining documents should use a sensible, easily understandable format.

Alternatively, if an Applicant prefers to submit the Application Package to MEA via U.S. Mail (to include the U.S. Postal Service and private couriers) or by hand-delivery, MEA must receive it no later than 5:00 P.M. EDT, Friday, May 1, 2020. An Application Package can be delivered to MEA at:

Maryland Energy Administration  
Attn: Resilient Maryland Program  
1800 Washington Blvd. Ste 755  
Baltimore, MD 21230

**Program Contact:** Questions, concerns, or clarification regarding Application requirements should be directed to **Brandon Bowser, Energy Program Manager**, at [BrandonW.Bowser@Maryland.gov](mailto:BrandonW.Bowser@Maryland.gov) or via phone at (443) 306-0304.

## Appendix A

### AOI 1: Community/Campus Microgrid Planning

**Eligible Measures:** Funds may be used for the costs associated with conducting analysis on the feasibility and public benefit of microgrids to be implemented at one or multiple commercial, industrial, governmental, or critical infrastructure Campuses for a Community, which would provide clean, resilient, efficient power to subscriber facilities located within the State of Maryland. The Maryland Energy Administration (MEA) will determine what constitutes measures eligible for funding on a case-by-case basis, but generally the following will be allowable:

- Project feasibility studies;
- Engineering analysis;
- Load analysis;
- Financial analysis;
- Microgrid planning committee/task force seed funds;
- Potential tariff development and analysis;
- Greenhouse gas reduction analysis; and
- Economic and public benefit analysis

**Incentive Amounts:** MEA will calculate the final incentive amount based upon the estimated cost of the Project. Subject to funding availability, incentives up to \$100,000 per project will be made available at the discretion of MEA.

**AOI 1 Requirements:** In addition to the Eligibility Requirements, the following requirements apply to each Project considered under AOI 1:

1. The Microgrid Project must be for **at least one (1)** Campus or for a Community, as defined by the Definitions section of this Notice of Availability.
2. Allowable generation assets include: solar photovoltaic (PV) systems, combined heat and power (CHP) systems, fuel cells, and other innovative generation technologies deemed eligible by MEA on a case-by-case basis. Diesel generators are **only permissible** as back-up generator assets in the event of primary generator failure. **Coal and oil-fired generators are ineligible and will not be considered.**
3. The Project must include a designated representative and a commitment to create a planning committee/task force **that includes the local electric utility and, if applicable, natural gas/other fuel utility.** MEA highly suggests the inclusion of a representative from the local government and/or local economic development planning authority. The planning committee/task force must advise and oversee the Project from development through conclusion.

## **Final Deliverables**

Final Project deliverables as described below will generally be required at the conclusion of the Project (MEA will make the final determination on what deliverables specifically apply to each awarded project):

1. Detailed Feasibility Study.
2. *For existing Facilities only*: Facility energy audit(s) identifying opportunities for energy efficiency upgrades to be included as part of Microgrid implementation.
3. Preliminary Microgrid engineering designs for at least one (1) type of Microgrid.
4. Twenty (20) year pro forma financial model(s), including net present value (NPV) and internal rate of return (IRR) analysis.
5. Greenhouse gas emissions reduction study quantifying avoided emissions as a result of utilizing Microgrid energy vs. utility-sourced energy.
6. Projected annual electricity and natural gas/other fuel savings afforded by the Microgrid to its subscribers.
7. Analysis of the barriers related to the current utility tariff structures and/or challenges related to integrating with the utility or operating in parallel.
8. Detailed report describing quantifiable and qualitative economic and societal costs and benefits to the ratepayers benefitting from the Microgrid.



## Appendix B

### AOI 2: Resilient Facility Power System Planning and Design

**Eligible Measures:** Grant funds may be used for the costs associated with conducting analysis on the feasibility and preliminary engineering of microgrids for single Facilities. An eligible Microgrid must provide cleaner, more efficient, and resilient power to each facility that it will serve located within the State of Maryland. A Microgrid considered under this AOI cannot cross public right-of-ways and must be entirely contained within the boundaries of real property owned or under lease by the Facility. The Maryland Energy Administration (MEA) will determine what constitutes measures eligible for funding on a case-by-case basis, but generally the following will be allowable:

- Project feasibility studies;
- Engineering analysis;
- Load analysis;
- Financial analysis; and
- Greenhouse gas reduction analysis.

**Incentive Amounts:** Subject to funding availability, up to \$25,000 per project.

**AOI 2 Requirements:** In addition to the Eligibility Requirements, the following requirements apply to each Project considered under AOI 2:

1. The Microgrid Project under analysis must be for **no more than one (1)** Facility, as defined by the Definitions section of this Notice of Availability.
2. Allowable generation assets include: solar photovoltaic (PV) systems, combined heat and power (CHP) systems, fuel cells, and other innovative generation technologies deemed eligible by MEA on a case-by-case basis. Diesel generators are **only permissible** as back-up generator assets in the event of primary generator failure. **Coal and oil-fired generators are ineligible and will not be considered.**

#### **Final Deliverables**

Final Project deliverables as described below will generally be required at the conclusion of the Project (MEA will make the final determination on what deliverables specifically apply to each awarded project):

1. Detailed Feasibility Study.
2. **For existing Facilities only:** Facility energy audit(s) identifying opportunities for energy efficiency upgrades to be included as part of Microgrid implementation.

3. Preliminary Microgrid engineering designs for at least one (1) type of Microgrid.
4. Twenty (20) year pro forma financial model(s) including net present value (NPV) and internal rate of return (IRR) analysis.
5. Greenhouse Gas reduction study quantifying avoided emissions as a result of utilizing Microgrid energy vs. utility-sourced energy.
6. Projected annual electricity and natural gas/other fuel savings afforded by the Microgrid.

## Appendix C

### AOI 3: Advanced CHP Planning and Design

**Eligible Measures:** Funds may be used for the costs associated with the planning, engineering, and design of a CHP System for a Facility located within the State of Maryland. MEA will determine what constitutes measures eligible for funding on a case-by-case basis, but generally the following will be allowable:

- Project feasibility studies;
- Engineering analysis;
- Load analysis;
- Financial analysis; and
- Greenhouse gas reduction analysis.

**Incentive Amounts:** Subject to funding availability, up to \$10,000 per project.

**AOI 3 Requirements:** In addition to the Eligibility Requirements, the following requirements apply to each Projected considered under AOI 3:

1. The advanced CHP System must be for **at least one (1)** Facility or Campus, as defined in the Definitions section of this Notice of Availability.
2. The advanced CHP System must meet at least 60% Higher Heating Value (HHV) efficiency (with the exception of fuel cell CHP Systems, which need only meet at least 50% HHV efficiency).
3. Eligible CHP System technologies must comply with the definition of CHP System found in the Definitions section of this Notice of Availability.

### **Final Deliverables**

Final Project deliverables as described below will generally be required at the conclusion of the Project (MEA will make the final determination on what deliverables specifically apply to each awarded project):

1. Detailed Feasibility Study.
2. Preliminary engineering designs for **at least one (1)** type of advanced CHP System.
3. Twenty (20) year pro forma financial model(s) including net present value (NPV) and internal rate of return (IRR) analysis.

4. Greenhouse Gas reduction study quantifying avoided emissions as a result of utilizing CHP energy vs. utility-sourced energy.
5. Projected annual electricity and natural gas/other fuel savings afforded by the CHP System.

## Appendix D

### AOI 4: Resiliency Hub Planning and Design

**Eligible Measures:** Funds may be used for the costs associated with the planning, engineering, and design of a Microgrid or a combination of Distributed Generation and an Energy Storage System at a Resiliency Hub for a Facility or Campus located within the State of Maryland. MEA will determine what constitutes measures eligible for funding on a case-by-case basis, but generally the following will be allowable:

- Project feasibility studies;
- Engineering analysis;
- Load analysis;
- Financial analysis;
- Greenhouse gas reduction analysis; and
- Analysis on quantifiable and public benefit, including any benefits to LMI Marylanders.

**Incentive Amounts:** Subject to funding availability, up to \$10,000 per project.

**AOI 4 Requirements:** In addition to the Eligibility Requirements, the following requirements apply to each Project considered under AOI 4:

1. The Resiliency Hub under analysis must be for **no more than one (1)** Facility or Campus, as defined in the Definitions section of this Notice of Availability.
2. Allowable generation assets include: solar photovoltaic (PV) systems, CHP systems, fuel cells, and other innovative generation technologies deemed eligible by MEA on a case-by-case basis. Diesel generators are **only permissible** as back-up generator assets in the event of primary generator failure. **Coal and oil-fired generators are ineligible and will not be considered.**

### **Final Deliverables**

Final Project deliverables as described below will generally be required at the conclusion of the Project (MEA will make the final determination on what deliverables specifically apply to each awarded project):

1. Detailed Feasibility Study.
2. Preliminary engineering designs for **at least one (1)** type of Microgrid or Distributed Generation plus Energy Storage System or combination of systems.

3. Twenty (20) year pro forma financial model(s) including net present value (NPV) and internal rate of return (IRR) analysis.
4. Greenhouse Gas reduction study quantifying avoided emissions as a result of utilizing CHP energy vs. utility-sourced energy.
5. Projected annual electricity and natural gas/other fuel savings afforded by the Microgrid or combination of Distributed Generation and Energy Storage System at the Resiliency Hub.
6. Detailed report describing quantifiable and qualitative economic and societal costs and benefits provided to Marylanders residing in the Community served by the Resiliency Hub.